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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,565	06/20/2005	Anne-Marie Fernandez	DECLE100.001APC	8816

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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
HEARD, THOMAS SWEENEY	
ART UNIT	PAPER NUMBER
1654	

NOTIFICATION DATE	DELIVERY MODE
03/30/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No.	Applicant(s)	
	10/522,565	FERNANDEZ ET AL.	
	Examiner	Art Unit	
	THOMAS S. HEARD	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,6,9,10,13-19 and 21-24* is/are pending in the application.

4a) Of the above claim(s) *16-19 and 21-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 5, 6, 9-11, 13, 29, and 30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/2/2009 has been entered.

The Applicants Amendments to the claims received on 2/9/2009 is acknowledged. The text of those sections of Title 35 U.S. Code not included in the action can be found in the prior office action. Rejections or objections not addressed in this office action with respect to the previous office action mailed 1/26/2008 are hereby withdrawn.

Claim(s) 1-3, 5, 6, 9-10, 13-19, and 21-24, are pending. Applicants have amended Claim(s) 1 and 2. Claims 16-19 and 21-28 are withdrawn. Claims 1-3, 5, 6, 9-11, 13, 29, and 30 are hereby examined on the merits.

Objections

Claim 1 is objected to as having editorial markings included from the word processors' tracking function.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 5, 6, 13, 29, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 1, Formula (I)  if first set to limitations of R_1 represents OH, NH_2 or NH-peptide; R^2 represents H or -CO-peptide, but later in the claim the peptide of formula (III) must contain a peptide of 10-100 amino acids. It is unclear how two conditions of option and essential can be a simultaneous condition.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

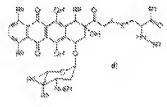
> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

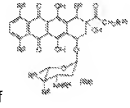
Claims 1, 2, 5, 6, 9, 13, 29, and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The MPEP states that the purpose of the written description requirement is to ensure that the inventor had possession, as of the filing date of the application, of the specific subject matter later claimed by him.

The factors considered in the Written Description requirement are (1) level of skill and knowledge in the art, (2) partial structure, (3) physical and/or chemical properties, (4) functional characteristics alone or coupled with a known or disclosed correlation between structure and function, and the (5) method of making the claimed invention.

In the instant case, the claims are drawn to methods of making compounds of the following structure:



by the coupling of  with  , to which the optional linker, L, can be of the formula  .

(1) Level of skill and knowledge in the art:

The level of skill to practice the art of the instantly claimed invention is high with regard to synthesis, isolation and purification of the compositions, as well as assays to determine the activity and efficacy of the compounds.

(2) Partial structure: (3) Physical and/or chemical properties: and (4) Functional characteristics:

The partial structures are those of anticancer anthracyclines, well know in the art. The compounds instantly claimed carry additional peptides linked at the C14 position of the compound shown supra, identical to the position indicated at R^{10}, through an optional linker (IV).

(5) Method of making the claimed invention:

Peptide synthesis, solid phase or liquid phase, well known the artisan in the peptide sciences.

As stated supra, the MPEP states that written description for a genus can be achieved by a representative number of species within a broad generic. It is unquestionable that Claims 1, 2, 29, and 30 are a broad generic, with respect to all possible compounds encompassed by the claims. The possible structural variations are limitless to any class of linker of formula (IV).

It must not be forgotten that the MPEP states that if a biomolecule is described only by a functional characteristic, without any disclosed correlation between function and structure of the sequence, it is "not sufficient characteristic for written description purposes, even when accompanied by a method of obtaining the claimed sequence. "MPEP § 2163.

Here, though the claims may recite some functional characteristics, the claims lack written description because there is no disclosure of a correlation between function and structure of the compounds beyond compounds disclosed in the examples in the specification. There are a handful of examples employing either a maleimidyl moiety or an alkyl chain, and while having written description for those linkers identified in the specification tables there is insufficient description of a common core structure that

would allow one of skill in the art to practice the invention as claimed. Applicant's definition of alkyl and aryl is so broad that one cannot envision the genus claimed. The specification teaches alkyl in open language and the term "aryl" as used includes a bivalent organic radical derived from an aromatic hydrocarbon by removal of two hydrogen, and includes any monocyclic or bicyclic carbon ring of up to 7 members in each ring, wherein at least one ring is aromatic, readable on mixed aryl and carbocyclic moieties of an undefined core. The description requirement of the patent statue requires a description of an invention, not an indication of a result that one might achieve if one made that invention. See In re Wilder, 736, F.2d 1516, 1521, 222 USPQ 369, 372-73 (Fed. Cir. 1984) (affirming rejection because the specification does "little more than outlin[e] goals appellants hope the claimed invention achieves and the problems the invention will hopefully ameliorate.") Accordingly, it is deemed that the specification fails to provide adequate written description for the genus of the claims and does not reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the entire scope of the claimed invention.

Claims 1-3, 5, 6, 9-11, 13-15, 29, and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the

application was filed, had possession of the claimed invention. This is a NEW MATTER rejection.

The response filed 2/20/2009 has introduced NEW MATTER into the claims. Newly added/amended claim(s) 1 and 29 recites "contains from 10 to 100 amino acids." The response did not point out where support for newly added/amended claim(s) could be found in the originally filed disclosure. Although the PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims, when filing an amendment an applicant should show support in the original disclosure for new or amended claims. See MPEP 714.02 and 2163.06 ("Applicant should therefore specifically point out the support for any amendments made to the disclosure."). Instant Claim(s) 1 and 29 now recites limitations, which were not clearly disclosed in the specification as filed, and now change the scope of the instant disclosure as filed. Such limitations recited in newly added Claim(s) 1 and 29, which did not appear in the specification, as filed, introduce new concepts and violate the description requirement of the first paragraph of 35 U.S.C 112. Applicant's intended ranges are from 1 to 100 amino acids, preferably from 10 to 50, more preferably from 10 to 40, yet more preferably from 10 to 30 amino acids, but the specification does not support the new range implicitly or by explicit examples. There are no examples of peptides of any length disclosed in the specification, and as such, to not provided support for the amended length. Applicant is required to provide sufficient written support for the

limitations recited in present Claim(s) 1 and 29 in the specification or claims, as-filed, or remove these limitations from the claims in response to this Office Action.

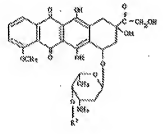
Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

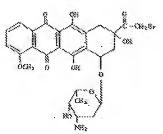
> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 10, 11, 29, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamao et al, EP 0039060 (April-1981), from Applicant's IDS.

Hamao et al teaches the bromination (halogenation) at the C-14 position of daunomycin



, where R^1 is H, to make the halogenated version which is



, and the whole molecule is an *intermediate* of the steps of (II) to (IIa) instantly claimed, reading on a method of preparation of intermediates of

Claims 1 and 29. Therefore, a step within the method claimed is anticipated by the prior art.

Conclusion and Allowable Subject Matter

Applicant's elected species and the generic of Formula (Id) or (Ic) appears free of the prior art if the 112 Fist Paragraph and 112 Second paragraph issues are resolved. The prior art does not teach the genus of Formula (Id) or (Ic) and the closest prior art, that of US Patent 7,425,541 which teaches the addition of amino acids to the sugar moiety but not to R^{14} of the Anthracycline.

The prior art made of record in the previous Office Action but not relied upon is may pertinent to applicant's disclosure if the New Matter amendments are changed to their original limitations: Prieb, Waldemar, et al, "*Doxorubicin- and daunorubicin-glutathione conjugates, but not unconjugated drugs, competitively inhibitleukotriene C4 transport mediated by MRP/GS-X pump*," Biochemical and Biophysical Research Communications, (1998), 247(3), 859-863. The reference is in Applicant's IDS submitted Jan 19, 2005

Conclusion

No claims are allowed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art contained in the reference of record can be applied in the next office action.

Applicant should specifically point out the support for any amendments made to the disclosure, including the claims (MPEP 714.02 and 2163.06). Due to the procedure outlined in MPEP § 2163.06 for interpreting claims, it is noted that other art may be applicable under 35 U.S.C. § 102 or 35 U.S.C. § 103(a) once the aforementioned issue(s) is/are addressed.

Applicant is requested to provide a list of all copending applications that set forth similar subject matter to the present claims. A copy of such copending claims is requested in response to this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas S. Heard whose telephone number is (571) 272-2064. The examiner can normally be reached on 9:00 a.m. to 6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on (571) 272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anish Gupta/
Primary Examiner, Art Unit 1654

/Thomas S Heard/
Examiner, Art Unit 1654